

Abstract

A reference frequency of 4224 MHz is divided into 1/2 to obtain a sampling frequency of 2112 MHz, and further the frequency division into 1/2 is sequentially performed and the values of three bits outputted by the 1/2, 1/4 and 1/8 frequency division are decoded in response to frequency selection. From one set of nonlinear 2-bit DA converters which output amplitudes $\{-1.7, -0.7, 0.7, 1.7\}$ using these decoded values as input, complex amplitudes corresponding to eight phases in a complex plane are outputted, so that complex sine waves are generated. Using these complex sine waves, the frequency switching is performed. Center frequencies of respective bands can be obtained without a phase error or an amplitude error.